San Francisco Nov 14th 67.

Prof. Dr. Asa Gray Cambridge

My dear Sir,

I must hasten to answer your letters; I received no less than three within a week. First yours of Sept 24th. I am glad that the bulbs have arrived; another package of bulbs left with the last steamer. Dispose of them as you please. Dr. Ager's plant is out of Borax lake the water of which is surely more than brackish.

Thompson letters I will answer now also. To the desired seeds I will tend as much as I am able to do in my present position.

Yes my number 6534 is a splendid plant (Oenothera Wolfii Whitney) Could you but see how it blooms.

How it covers the field like a large rose. I am sorry that it grows rather in a locality very little accessable in a short time. Still I may be able to manage to get some.

My grapes I shall take up again although I should not have objected if Prof. Th. worked them up with the understanding that I would be informed of the result. I am hard pressed with work, can only work at them at fits and starts.

Ceanothus papillosus Dougl. is an exceedingly common plant in the Redwoods about 28 miles south of S. F. extending southward, especially beautiful on the road to Santa Cruz. It is a species highly worthy of cultivation; its flowers are a bright blue in great profusion. Did I not send enough of it?

I do insist upon that Mr. Sullivant takes up again his moss-studies. What a pity of our Calif. should not be illustrated and delineated and added to his noble works!

I rejoice to learn that you find still new things among my collections. Much remains to be done. In one sense I am glad that something is left for me, for there is nothing like roaming over our hills and camping in and woods. Of course I do hope that you will not construe this as if I considered the finding of new things the end of botanical investigation; this is our alphabet only.

Yours of Oct. 4th 67.

So we have the genus Bolandra thank you again and again for the honor conferred upon me. I know now the plant and a.o.

but this relieves me from my anxiety.

Now I will tell you that I have procured a fine lot of seeds from the Mts

Pinus monticola, Lambertiana
Picea amabilis (the tree!!!)
Sequoia gigantea and Ceanothus integerrimus the finest with white flowers.

Gow and Mr. Thompson must have some of it; they are from Mr. Clark and perfectly that what I say. It may be that I get yet Fremontia before these are sent. (Also some few other seeds.) Also cones of the P. amabilis fine indeed. If they come to me as the first two came (from Clark) and if you get them so well preserved you will be delighted!

highly pleased with it. It is a beautiful plant, growing on shelving rocks in mosses near the Vernal Fall in Yosemite Valley; a place or rather spot where I found also some most excellent new mosses. It is rather plentiful there but hard to collect, being extremely tender, it bulbous roots break off very easily.

The bill paid by me at Westermann's was one of Mr. Bloomer who had things ordered in my name.

Yours of Oct. 10th.

November 6 & 7 I think closes my notes for the present. I am sorry that you did not accept a set of my plants; my offer was made in good faith and the best of will.

Thanks for the account; I was afraid I might run in debts.

defined by nature. Lumbermen only have created that confusion. these four species no Botanist can mistake nowhere and at no times. Neither Prof. Brewer nor I nor anybody else has so far collected another sp. in Calif; I saw nothing of it at least.

The seeds will please you certainly for they are fine.

Pinus deflexa of Torrey is undoubtedly a variety of P. ponderosa.

Excuse my haste dear Sir and let me hear from you soon again.

Yours
most sincerely
Henry N. Bolander.

those cones of the P. amabilis and an article published by Murray of Scotland induced me to investigate the question.

You will remember that I said once P. grandis and amabilis might be the same, now I wish to say, they are very distinct indeed. During last summer I took the Pines, growing from 7000 upward for the nobilis, as there were no cones. the grandis I saw a great deal on the coast, and considered the one growing on the Sierras from 3-7000 to be amabilis. Now I can state most positively that: on the coast and in the Sierras from 3-7000 feet is grandis

the figures given by Newberry as grandis and amabilis belong both to this species.

the one from 7000 upwards is the true amabilis Dougl. = the Cassiocarpa Hook. = the magnifica of Murray. the three names are good and characteristic. I am sorry to say we have but one tree for them, but one whose grandeur is surpassed by none of the tribe. that tree cannot be described, there are no words. What has commonly been sold for amabilis is generally grandis. this is the case in our gardens here and I judge from Murray's paper the same was and is done in England.

Next comes P. nobilis whose cones cannot be mistaken; also those of the next bracteata could not be mistaken.

Thus we have four distinct species remarkably well de-

San Francisco Dec 1st 1867.

Prof. Dr. A. Gray Cambridge Mass

My dear Sir,

In working up my grasses I find it necessary to consult you in regard to a few species.

First enclosed I send you specimens of a Calamagrostis (my No 4787 4766) collected by me in wet meadows close to the sea coast in Mendocino Co. It was blooming when collected. Roots long and creeping

In Steudel I find no spe description answering to it. In Desvaux' Grasses of Chile is one figured under the name of Deyeuxia chrysostachya, the general aspect could answer and the palea as figured there agrees very well, but that's all. Is it a new species?

The awn is straight when green and wet, but twists immediately when drying the panicle remains very open after shedding its seeds.

Glumes also spreading

The 2d is a Calamagrostis also, my No 6471. collected last June in the same locality.

It agrees pretty well with the description of varia

given by Munro as varieties of the above { var. puppurascens N.B. / Montana Host

Could you send me 1–2 spikelets of Stipa Richardsonii ? in your next letter ?

Now another curious affair. In working up the Melica I found Prof. Thuber's view correct in making my No 40 of publ. Exp. sets a variety of M. scaeoides. For the last two years I observed it closely and found the above opinion correct. I call it var. bromoides No 6119 recently sent.

If we find this correct, we must also take in my number 4698 (recently sent) from the sea coast. I call it var. ciliata or probably better acuminata.

If these are in No. 6121, from Los. Valley must come in I call it var. inflata

Having all these in, it becomes a necessity to receive also under that species my No. 53 prefs sets and sent again recently with notes. Thurber left it undetermined, Harvey says, it is a new species, but I am satisfied it is a variety only. I followed it up through long distances and found transitions I call it M. fosericb.
var. brevi-aristata.

Having taken this in it becomes a question whether 4861

Yours
most sincerely
Henry Bolander

should come in also or stand as a ~~distinct species~~.
I myself doubt it being distinct.
if regarded as distinct I would like to call it
M. longiaristata.
A rather curious name for a Melica, since the awn is not recognized in that genus, but the awn gives no reliance whatever with our grasses.
And should it be referred to any other genus for that alone, when every thing else proclaims it a Melica?
I analyzed them all I and I found them "inwardly" perfectly alike.

You would please me very much if you would give me your opinion on these questions.

Rd

San Francisco Dec 10th 1867.

My dear friend,

A few days ago I wrote you about some grapes including also one, which I thought might prove to be a new species, but that even was an error. Dr. Kellogg having returned from Alaska submitted for investigation his grapes to me, Among these I found Calamagrostis Lapponica and by a careful investigation I came to the conclusion that my little plant must be referred to that species. My specimens are very small but in every other respect they agree. Ledebour's Flora Rossica helped me more than Mendel.

Labb will go East soon probably, he will take some things for me.

There will be another bill soon. When the last one is paid I will let you know, therefore retain all.

With kind regards

Yours

most sincerely

H. N. Bolander.

The Dr. brought also down that dubious grass so poly-morphous with us Agrostis exarata. Mamma & Thurber both referred my specimens mostly to Ag. aspersifolia but I can now speak with absolute certainty that it is the true Ag. exarata.
Wherever I have given you aspersifolia, exarata should stand.
The different forms I will place together and send to you soon.
I feel quite cheerful over these two discoveries.

Enclosed some seeds of the Eucharidium Breweri
Let Thompson have a few if you can spare them

San Francisco Dec 29th 67.

Dear Sir,

Two boxes for you, will leave to day in care of the Smithsonian Washington. The large box contains a complete set of Dr. Kellogg's plants collected north in our new possession, and some valuable seeds. The large bag, Picea amabilis = magnifica, contains probably too many to get England at once. Please help yourself and if you know any body else let him have some. It would be well to send some to the Smithsonian. Perhaps Mr. Mann will do it for me. In the small bag you find the

Did you receive to packages of seed: one contained none but Chilian seeds and the other some from our Mts?

Ere this arrives we will have paped the year 67 and entered another. May the Almighty, in whose hands our life rests, permit you to live yet a long series of years, useful and blissful to your fellow-beings — and grant you good health and a joyful disposition to advance our beloved science more and more. — A happy joyful New Years!!

Yours
most sincerely
Henry Bolander

the seeds of the Fremontia, take what you want and give the rest to Thompson. Please examine all the seeds and keep whatever you like of them. Helenium Bolanderi you will also find among them.

The smaller box contains two fine cones of P. ponderosa one for you and one for Dr. Engelmann. The coniferous branches you may divide with the Dr. if he is not already supplied with them. Those little packages marked "Expedition to Alaska" are for Dr. Engelmann.

I hope you will excuse me for sending all these things to you first and beg you to distribute them for we could not find suitable boxes to divide them at once

San Francisco Jan. 4th 1868

Prof. Dr. Gray Cambridge Mass.

My dear Sir,

Yours of Dec 4th has been duly received.
The rays of 6170 single specimen are purple. It is a curious circumstance that only one plant could be found. It grew on light sandy soil (derived from Granite) near the debris piles in Yosemite Valley. The next day I set out purposely to find some more but all my efforts proved fatal. Being so near the Bridal Veil Fall I supposed the seed might have been swept down from higher portions of the Sierras. Consequently I made close search for it when we went higher up

but all in vain; my plant remains a single specimen. May it turn up soon from some direction!

The plant is so fresh in my memory that I will always know it.

4994. Hulsia brevifolia is very common near the falls in Yosemite Valley; also on the Mariposa trail and especially in the Big Tree Grove. Generally on gently rising slopes in light soil, forming large tufts having 10-20 stems arising from a common rootstock.

I am pleased to learn that the bulbs have safely arrived.

I am anxious to see the new vol. of Boott's Carices.

In those two boxes sent a few days ago is also a small package of Lichens for Prof. Tuckerman and a few Lichens for Mr. Mann.

The first memoir of our Academy is out. It is a catalogue of the mosses of the Western Coast by Lesquereux. The material described therein is still in my hands as soon as I am able to work at it again, You shall have your share.

The continuation of our Survey is still doubtful. I am of the opinion that they cannot stop it now. Much folly may be expected from a legislature in California!

Our rainy season is unusually hard wind and storm. It rained for weeks in cataracts, the valleys are overflowed and great damage has been done by the rushing waters.

Yours
most sincerely
Henry N. Bolander

science to make also the jackasses of the people of California speak once more sensible.

The news of giving away the famous Yosemite Valley has undoubtedly reached you — What next?

We have now rain and nothing but rain; over 30 inches have fallen already. Seeming a promising season, though dreadfully hard to endure. Keeping in the house makes me sick and melancholy.

I hope to hear soon from you.

Yours
most sincerely
Henry N. Bolander.

P.S. Could you tell me how I could obtain some seed of the plant from which the Persian Insect powder is obtained?

San Francisco March 3d 68

Prof. Dr. A. Gray Cambridge

My dear Sir,

Your favor of Jan. 19th should have been answered some time ago; the delay is owing to the presence of our friend Dr. Parry. I was most happy to make his personal acquaintance. He left for the East last Saturday.

I am daily looking for the new issue of your newly described plants.

I have made such arrangements that I may hereafter furnish more bulbs and seed to parties. The boxes sent some time ago may be in your hands by this time. Premonitio has come up already from seed of the same lot sent to you.

that shrub differs considerably in appearance. Near Clear Lake it had small insignificant leaves and was of a barren look. How different in the Sierras at about 4000 alt. where it occurs very abundantly. There the leaves are large, fairly dense and the whole shrub covered with its large yellow flowers. If it should grow in a similar manner in Europe, it will become an object much sought for. I hope to bring into market also Arctostaphylos Whitneyi next year. I am fully of your opinion in regard to Mr. Thorington's money. When delivered it is time enough.

By my arrangements I will also be able to furnish the seeds of Adenostylis = Cacalia magna fall.

Well, was I aware of the Sanguisorba collected at Mendocino; it occurs however only sparingly, yet apparently indigenous.

Prof. Whitney is at Sacramento. The poor Professor has also his share of troubles. You may imagine of what sort they are when he is asked by the Committee to explain of what practical use maps are. Is it not enough to sink a man or make him shudder in all his limbs! Poor man! The patience with which he bears for science' sake such talk, seems to me almost more praiseworthy than that what he accomplishes.

In a few days all will be decided: continued or not continued. If God had the power of making Bilicans' jackass speak sensibly, why should he not have mercy upon the Professor and

Did you ever see the enclosed Compositæ? Dr. Kellogg collected it near Oakland a few days ago. Strange to say, I never noticed it.
Col. Munro sent me his views on my grasses. I will make a copy of it and send it to you it may interest you.
On the 6th of April I discovered two new species of the genus Bolandra, since the genus is so clearly set before me and the species undoubtedly new, I took the liberty of naming them myself, otherwise I should have gladly referred them to you.
I called the one Malvina and the other Thekla; both are fine specimens.

Yours
most sincerely
Henry N. Bolander

San Francisco Apr 18. 1868

My dear Sir;

Both letter of yours 20/3. 21/3 were received this morning. The red Pentstemon in question, of which only two or three specimens were collected in Yosemite Valley, affords one of those exceptional cases of our vegetation. The same holds good with regard to the Hulsea heterochroma from the same region.
It may be said as a general fact that our plants occur always in large numbers together and there is no difficulty in finding good specimens.
The two species in question were undoubtedly stragglers, not belonging

to the valley properly speaking. the seeds were swept down by mountain streams and happened to germinate. My conclusion is, I think, fair, for I was all over the Valley, made special trips for the Mulsea, but in vain. the very place of their occurrance (station) supports it, for they were found near little falls.

the Penstemon is of a scarlet color and would be an acquisition for gardens. the contrast is great with the dim foliage of Alnus. I flattered myself to find them higher up in the Mts, but I did not. Another plant of that kind is a single large specimen of Chrysopsis (found on the banks among Alnus) that however was met with in plenty back of the Valley at 8000 feet also in the Big tree Grove

6570.

Please do not omit the description of Helenium Bol. and Veratrum fimbriatum.

the continuation of your plants just published arrived a day before. When all completed I hope you will send us a small supply of sheets

I have determined now to spend my vacation (June) on the coast at Mendocino Co. I have been there often, always making new additions, it is likely that I may do so again. the region is so peculiar from the rest that I love to go there. besides it is cheaper for me to do so 60-70 dollars will cover my expenses. If there is anything particular to tend to let me know the new plants from there I will collect largely

to cure, took me some two weeks. I saw root leaves much like those of that plant on Mt Bullion and also in Yosemite Valley (also old heads which seem to belong to this plant in question.)

Number 6007 is a plant in which Prof. Whitney was very much interested. He and King brought it down first from a Mt near Yosemite Valley some 9000 feet, but quite young and undeveloped. My specimens were found on a almost bare slope of the Sherred back of Yosemite Valley. The whole slope seems to be formed of imbricated slabs. In the crevices of which this plant grows in very great abundance this slope is of southern exposure

San Francisco Apr 27th 68

Prof. Dr. Asa Gray Cambridge

My dear Sir,

Your letters of the 27/3, 2/4, and a few lines without any date are before me. Dr. Hooker's present delights me very much indeed. it is a noble present. thank you for all the trouble you have had with it. You as well as Dr. Hooker call the new Vol. the fourth, what is then the one I possess? It contains pl 1—200 and was published 1858. Please send it to the Smithsonian in the name of our Calif. Academy.

Give Dr. Parry my best wishes and tell him to let me know freely

his desires as to plants.

The bill of lading arrived, the box will go to the Smithsonian

4929 Pedicularis semibarbata is a pretty common plant on the bare slopes on the Yosemite trail down into the Valley, dry loose soil in open pine forests, also in the Big tree grove. Do not think it occurs below 5000 nor have I met with it in the higher Sierras. It grows rather scattered yet tolerably plenty. Its color is lightly yellow, cream-colored (but even that not bright) rather dull.

The second species P. attollens occurs only in the higher Sierras in swamps (like our Eastern) always scattered, sometimes 3-4 stems together. Its height also differs considerably, some are nearly 2 feet high while others are scarcely 8-10 inches. Flowers purple or red.

P. semibarbata is in habit much like our bright red species here on the coast; dry loose ~~hillsides~~ soil on hillsides in open woods. I never learned what the specific name of ours here is.

4928 occurs with 4833 sparingly on the slope, on which we descended into the Valley at 7—5000 feet its color is very light blue, scarcely tinged with blue, so is also number 4833 which is however more common especially at Ostrander's Sheep-Ranch (8000) also open woods of Pinus contorta.

What is my Composite 6187 from Long Valley, almost the earliest plant there and quite showy growing in immense tufts. A plant difficult to

exceedingly dry (8000 feet) Saw the plant no more afterwards in any other locality. Could it be your Ivesia santolinoides?

Thank you for the seeds of Pyrethrum. Will see what I can raise from it.

Prof. Whitney will leave for Cambridge in a few days (Thursday)

What will become of our Vol. on Botany? Now when we thought ourselves nearly in possession of a Manual, we find our hopes rudely destroyed by a set of ignoramuses

Still there is one hope left for us unhappy creatures — Wood will step in and put all in good order — think the blow is worse for him than any one else

If the publication should be deferred for some years he will show his true color and verify my assertion that he meant to copy - pluck the fruit when it was nearly ripe.

Yours
most sincerely
Henry R. Bolander

Of the enclosed Saxifragaceous plant I found 1-3 specimens among rocks in the higher Sierras - rare -.
Don't know whether you got any of it at all.